

FOSTER D. SNELL Inc.

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NEW YORK WASHINGTON
CLEVELAND CHICAGO
LOS ANGELES

29 WEST 15th STREET
NEW YORK, N.Y. 10011

924-8600
AREA CODE 212

27 November 1967

Report to: Philip Morris Inc.
Sample of: Cigarettes
Submitted by: Dr. Robert M. Ikeda
Sample Number: 4227-SO1
Marking: See Below
Sampled by: Client

QUANTITATIVE DATA:

<u>D7VF</u>	Total Particulate Matter	Moisture	Dry Particulate Matter	Nicotine
	(mg. in smoke of 1 cigarette)			
Run 1	12.1	0.6	11.5	0.34
Run 2	14.0	1.2	12.8	0.48
Run 3	12.2	0.9	11.3	0.39
Run 4	12.8	1.0	11.8	0.41
Average	12.8	0.9	11.9	0.41

Average number of puffs 9.5

<u>D7VG</u>				
Run 1	26.3	2.9	23.4	1.09
Run 2	25.8	2.8	23.0	1.09
Run 3	25.4	2.8	22.6	1.23
Run 4	25.3	2.4	22.9	1.26
Average	25.7	2.7	23.0	1.17

Average number of puffs 9.5

DISCUSSION:

The cigarettes were conditioned for 24 hours at 75°F. and 60% relative humidity. Cigarettes weighing within ± 20 mg. of the average weight were used in the test. Smoking was done in a room conditioned to $75 \pm 2^\circ\text{F}$. and $60 \pm 2\%$ R.H. The smoking system consisted of the cigarettes, a tared Cambridge filter assembly and a smoking machine that produces a 35 ml. puff of 2-second duration at a rate of one puff per minute. Five cigarettes were smoked through each Cambridge filter and the results calculated and reported in terms of one cigarette.

Moisture was determined by GLC. This determination was made according to the procedure described in a paper entitled "Determination of Moisture in Total Particulate Matter" by Schultz and Spears in Tobacco Science, Vol. X, pp. 75-76 (1966).

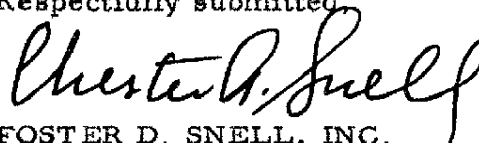
As soon as the filter assembly had been weighed, it was opened and the filter placed in a dry 30 ml. serum bottle. The inner face of the filter holder was then wiped with one-fourth of a Cambridge filter pad and this added to the serum bottle. Ten ml. of dry dioxane-isopropanol (100:1) was measured from an automatic burette into the serum bottle and the stopper inserted. The bottle was shaken for 20 minutes on a Wrist-Action shaker.

A sample of 10 microliters was withdrawn with a Hamilton syringe through the rubber serum cap and subjected to gas chromatography in an Aerograph 90-P3 gas chromatograph. The moisture content of the particulate matter was read from a calibration curve made by adding known amounts of water to the solvent mixture. Filters conditioned at 75°F. and 60% R.H. were run and the average value of the moisture content subtracted from the amounts found in the used filters to get the net moisture content.

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The balance of the solution for GLC moisture, plus the filter pad, was transferred to a Kjeldahl flask and the nicotine determined by the usual procedure of double distilling and reading in the ultra-violet in a spectrophotometer.

Respectfully submitted



FOSTER D. SNELL, INC.

Chester A. Snell, Ph.D.
Research Director
Testing & Engineering Dept.

LS:AR:CAS:dh

cc: 2c, 2p, 1f.

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